

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-319261  
 (43)Date of publication of application : 21.11.2000

(51)Int.CI. C07D215/56  
 C07D401/12

(21)Application number : 11-132638  
 (22)Date of filing : 13.05.1999

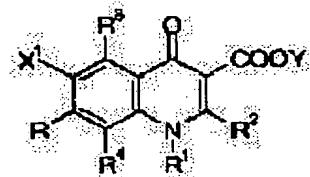
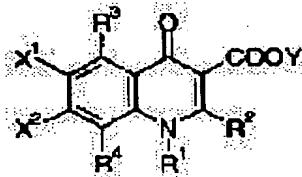
(71)Applicant : DAIICHI SEIYAKU CO LTD  
 (72)Inventor : TAKEMURA MAKOTO  
 TAKAHASHI HISASHI  
 KAWAKAMI KATSUHIRO  
 TAKEDA SATOYUKI  
 INAGAKI HIROAKI

## (54) PRODUCTION OF QUINOLONE-CARBOXYLIC ACID

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To efficiently obtain a quinolone-carboxylic acid having excellent antimicrobial activities, pharmacokinetics and safety by reacting specific two species of compounds, if needed, in the presence of a base under pressurization.

**SOLUTION:** A compound of formula II is obtained by reacting under pressurization (A) a compound expressed by formula I [R1 is a 1-6C alkyl, a 2-6C alkenyl or the like; R2 is H, a 1-6C alkylthio, R2 and R1 unite together to form a (S-containing, substituted) cyclic structure including a portion of the mother nucleus; R3 is H, a (substituted) amino or the like; R4 is H, a halogen or the like, R4 and R1 unite together to form a (O-containing, substituted) cyclic structure including a portion of the mother nucleus; X1 is a halogen or H; X2 is a halogen; Y is H, phenyl, acetoxyethyl or the like] with (B) a compound expressed by formula R-H [R is a single cyclic, dicyclic or tricyclic (N and the like-containing, substituted) saturate or a partially saturated N-containing heterocyclic substituent in which the N is a bonding site] and (C) if needed, in the presence of a base.



### LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision  
of rejection]

[Date of requesting appeal against examiner's  
decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office